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Two New Species of Cochylini (Lepidoptera: Tortricidae: Tortricinae) From the Eastern United States

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TWO NEW SPECIES OF COCHYLINI (LEPIDOPTERA: TORTRICIDAE: TORTRICINAE) FROM THE EASTERN UNITED STATES

Eric H. Metzler[1]

ABSTRACT

Intensive collecting in prairie and oak barrens habitats in Ohio and Indiana revealed two undescribed species of Cochylini (Lepidoptera: Tortricidae): *Aethes patricia* new species and *Cochylis ringsi* new species. Illustrations of adults, male and female genitalia, and distribution maps are provided. *Aethes patricia* may be prairie remnant dependent in Ohio and Indiana.

Because less than 1% of the once extensive North American grasslands called tall grass prairies are extant, this habitat is a critical, highly depleted natural resource. Although flora and vertebrate fauna of North American prairies have received considerable scientific investigation, knowledge of the insect fauna of this system is virtually non-existent. Because insects dominate life on earth (Borror et al. 1992), and because prairies are a complete ecosystem (Transeau, 1935), research on prairie insects is warranted. The description of the species in this paper is one contribution towards knowledge of prairie fauna. The species are described at this time to make available the names and data for agencies responsible for managing the type localities.

Powell (1983) listed 110 species of Cochylidae (=Cochylini), of which 58 were considered *incertae sedis*. Razowski's (1997) review of species found in Canada was the first illustrated accounting of Cochylini in North America. Otherwise the Nearctic fauna is not well known with as many as 2/3 of the species in the Nearctic potentially undescribed (M.G. Pogue, pers. comm.).

MATERIALS AND METHODS

For several years I conducted inventories of night flying insects in various remnant prairie sites in Ohio and Indiana. Monthly samples were collected from April through October in diverse habitats. On each night when samples were taken, black light traps were set in arrays; all traps in each array were operated on the same night. The array in Erie Co., Ohio was 6 traps, the array in Newton Co., Indiana was 6 traps, and the array in Jasper-Pulaski Wildlife Area, Indiana was 7 traps. In Indiana all traps in each array were within 4.8 km of each other, and in Ohio all traps were within 1.6 km of each other. Similar arrays were organized in Lucas and Wyandot counties, Ohio. Over 1,000 species of moths were identified.

The black light traps used in the arrays were patterned after the stan-

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dard USDA Elisco® traps, using a 15 watt fluorescent black light bulb (bl) powered by 12 volt batteries and Cyanogas® as the killing agent. The traps were deployed in the late afternoon and retrieved at dawn the following morning. All specimens of moths were removed from the samples and sorted to species. Additional specimens of Cochylini were borrowed from the Academy of Natural Sciences, Philadelphia, (ANSP), Carnegie Museum of Natural History (CMNH), Cornell University (CUIC), Field Museum of Natural History (FMNH), Florida State Collection of Arthropods (FSCA), George J. Balogh (GJBC), Illinois Natural History Survey (INHS), Edward C. Knudson (ECKC), Bryant Mather (MATH), U.S. National Museum of Natural History (USNM), Mississippi Entomological Museum (MEMU), and Valeriu Albu (VAIC). Abbreviations are directly from, or formed in accordance with, Arnett et al. (1993).

Genitalia were examined following procedures outlined in Clarke (1941) and Hardwick (1950). Abdomens were removed from the moths, wetted in 70% ethyl alcohol, and soaked in 10% KOH. Genitalia were dissected in distilled water, stained with Safranin O in water, dehydrated in 98% isopropyl alcohol, cleared in xylene, and slide mounted in Canada balsam. I examined the genitalia of 99 males and 29 females.

The genitalia were photographed with the aid of a Leitz Aristophot photomicrographic apparatus using transmitted light. For photographs of adults, I used an Aristo DA–10 light box; the background was an 18% gray card.

Forewing lengths were measured to the nearest mm, using an ocular reticle. Forewing measurements were from the base to the tip. Descriptive colors were from Ridgway (1912) and Smithe (1974, 1975, 1981). Terminology for elements of wing pattern follows Bradley et al. (1973); morphology and genitalic structures follow Horak (1984).

Aethes patricia Metzler, new species
(Figures 1a, 2, 4)

Diagnosis: The adult, which resembles *Aethes fernaldana* (Walsingham, 1879), is recognizable by the buff color of the forewing with a salmon and kingfisher rufous-colored, median fascia extending from the costa obliquely towards the tornus through the cell, and a median dorsal fascia that ends in an acute point at the cell. The fascia and other markings are outlined with reflective white scales. The male genitalia, with sickle-shaped socii are typical for the genus. It is separated from *A. fernaldana* by the shape of the valva. The apex of the valva of *A. patricia* has a strong tooth, absent in *A. fernaldana*. The saccular region of the valva, robust in *A. patricia*, is reduced in *A. fernaldana*; edged with dense setae in *A. patricia* and only a few setae in *A. fernaldana*.

Description. *Adult male* (Fig. 1a): *Head:* Vertex tufted, laterally with buff colored scales blending to pale buff medially. Front pale buff blending to buff laterally; cinnamon behind the eye. Labial palpus, basal segment short, pale cinnamon, smoothly scaled laterally, loosely scaled ventrally; median segment more than one half total length, smoothly scaled laterally with ventral and dorsal tufts, inner surface buff, outer surface buff distally blending to cinnamon basally with scattered darker scales; apical segment short, smoothly scaled, buff with specks of burnt orange. Antenna filiform, scape salmon anterior, pale buff posterior, ventral surface naked, dorsal surface scaled, base of each segment pale buff, basal ⅓ cinnamon distally, distal ⅓ with two or three pale buff scales per segment; base of each segment with dense ⅔ circle of sensory setae, some longer than width of flagellar segment.

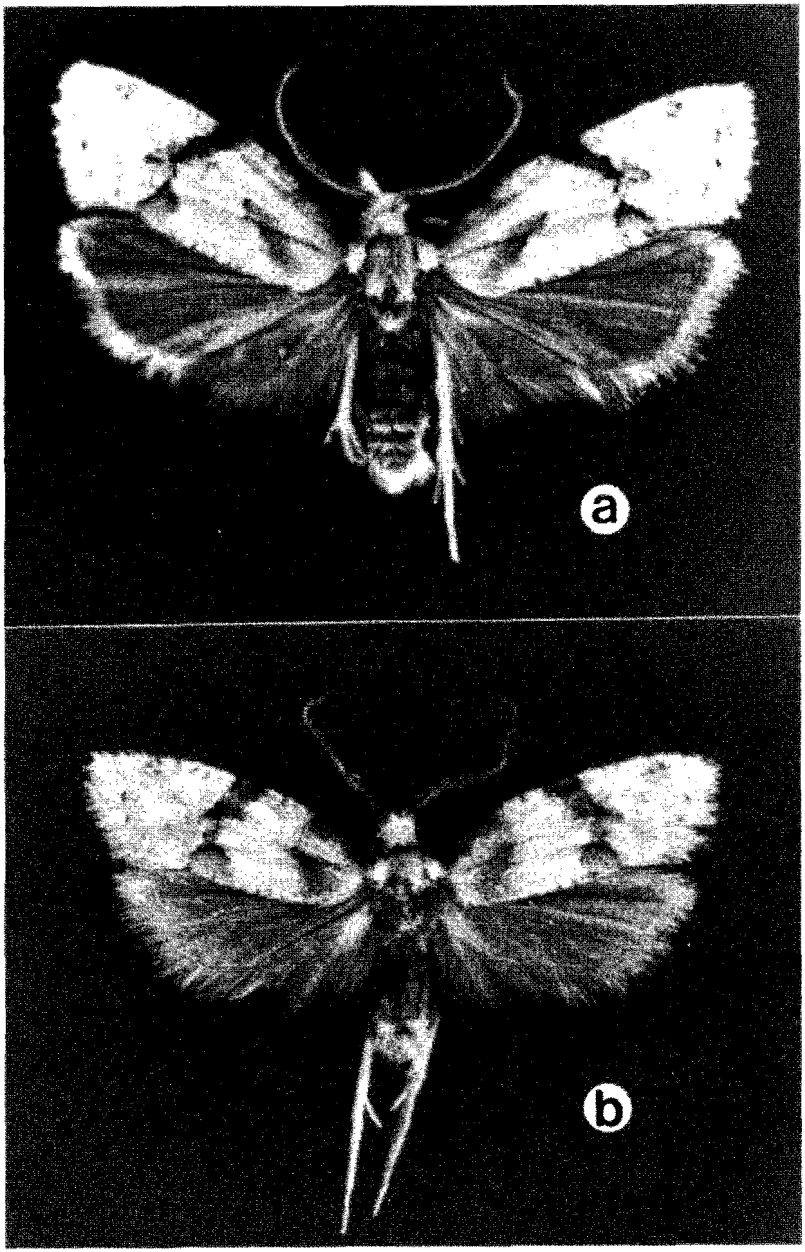

Figure 1. a, Paratype male of *Aethes patricia* Metzler new species. b, Holotype male of *Cochylis ringsi* Metzler new species.

Thorax: Dorsally concolorous with head. Posterior scales of tegulae upturned, sometimes recurved anteriorly. Mesothorax slightly tufted posteriorly. Metathorax slightly tufted dorsally; smoothly scaled ventrally, shining pale buff. *Legs*: Prothoracic coxae fuscous and shining fuscous, pale buff ventrally; femur shining fuscous, pale buff ventrally; tibia shining fuscous, pale buff ventrally; tarsomeres with acute triangular shining fuscous scales, each segment distally with pale buff, last segment distally ringed with pointed contrasting pale buff scales. Mesothoracic coxae fuscous, pale buff ventrally, with distal patch of tawny scales; femur shining fuscous, pale buff ventrally; tibia shining fuscous, pale buff ventrally; tarsomeres with acute triangular shining fuscous scales, each tarsomere distally ringed with pointed contrasting pale buff scales. Metathoracic coxae pale buff; femur pale buff; tibia pale buff, tibial spurs from pale buff to fuscous; tarsomeres pale buff. *Forewing:* length 5.2–7.0 mm, mean 6.3 mm, n = 62. Ground color buff, pale buff, and reflective pale buff, basal ⅓ of many scales reflective; markings delineated with salmon-, kingfisher rufous-, and reflective pale buff scales; basal fascia buff basally, darkening outwardly, outlined with reflective scales; median costal fascia in two parts, from costa to ¾ salmon outlined with burnt orange, distal ¼ buff and salmon, few distal burnt orange scales; median dorsal fascia offset from inner margin by reflective scales, triangular, salmon outlined with burnt orange, acute mid-wing point at edge of cell; basal subcosta and costal subapical patch buff and salmon; subterminal area alternating patches of buff and reflective scales with occasional burnt orange scales; fringe reflective pale buff. Underside mostly fuscous with patches of pale reflective scales appearing striated, subterminal cells between veins with pale reflective scales, veins dark, terminal line pale; outer half of costa buff crossed with narrow fuscous bars; fringe reflective pale scales. *Hindwing:* Ground color reflective pale with fuscous-tipped scales giving a striated pattern; veins slightly darker; fringe pale at base, darkening to pale fuscous, terminal ⅓ pale. Underside ground color reflective pale fuscous with darker-tipped scales appearing striated; costal ⅓ darker; Sc, R, and M1 veins lined with contrasting dark-tipped scales. *Abdomen:* First tergite with base smoothly scaled mesally, reflective pale buff, rest of tergite pale fuscous; segments 2–7 pale buff basally, pale fuscous distally giving a ringed appearance; terminal segment pale fuscous. *Genitalia* (Fig. 2a, b): Tegumen robust. Socii joined from base to ⅓ length, distally sickle shaped as for genus. Uncus absent. Gnathos absent. Transtilla well developed with elongate mesal process. Vinculum arms free. Valva with two lobes broadly connected, outlined with dense setae appearing fuzzy; apex at costa ending in a short tooth; saccular area expanded with large basal lobe. Aedoeagus curved ventrally with broad terminal ventral tooth, cornuti absent. *Adult female:* Superficially similar to male except sensory setae on ventral surface of antennae sparse, no longer than width of flagellar segment. *Forewing:* length 5.9–7.3 mm, mean 6.9 mm, n = 6. *Genitalia* (Fig. 2c): Ovipositor lobes elongate, narrow, lightly sclerotized. Anterior and posterior apophyses slender. Eighth sternum heavily sclerotized, lateral ovoid sclerotized areas conspicuous. Ductus bursa heavily sclerotized; longitudinal ridges, slightly curved from right to left. Corpus bursa transparent, coalescent with ductus bursa, extending under eighth sternum on left side and posterior to opening of ductus bursa. Signa absent.

Types. *Holotype*: Male. **USA**: **OHIO**: **Erie Co.**, Margaretta Township, 41°23.5′N 82°50.5′W, Resthaven W[ildlife].L.A[rea]., r-1, 29 July 1995, Eric H. Metzler (USNM). *Paratypes*: 78 ♂♂ and 10 ♀♀ as follows. **USA**: **ILLINOIS**: **Putnam Co.**: 6 Aug 1945, 1 ♂, 9 July 1949, 1 ♂, 6 Aug 1949, 1 ♂ (slide USNM 23339), 12 Aug 1949, 1 ♂ 1 ♀, 14 July 1947, 1 ♀, 18 Aug 1947, 1 ♂, 19 July 1948, 1 ♂, 31 July 1947, 1 ♂, 29 July 1949, 1 ♂, M.O. Glenn

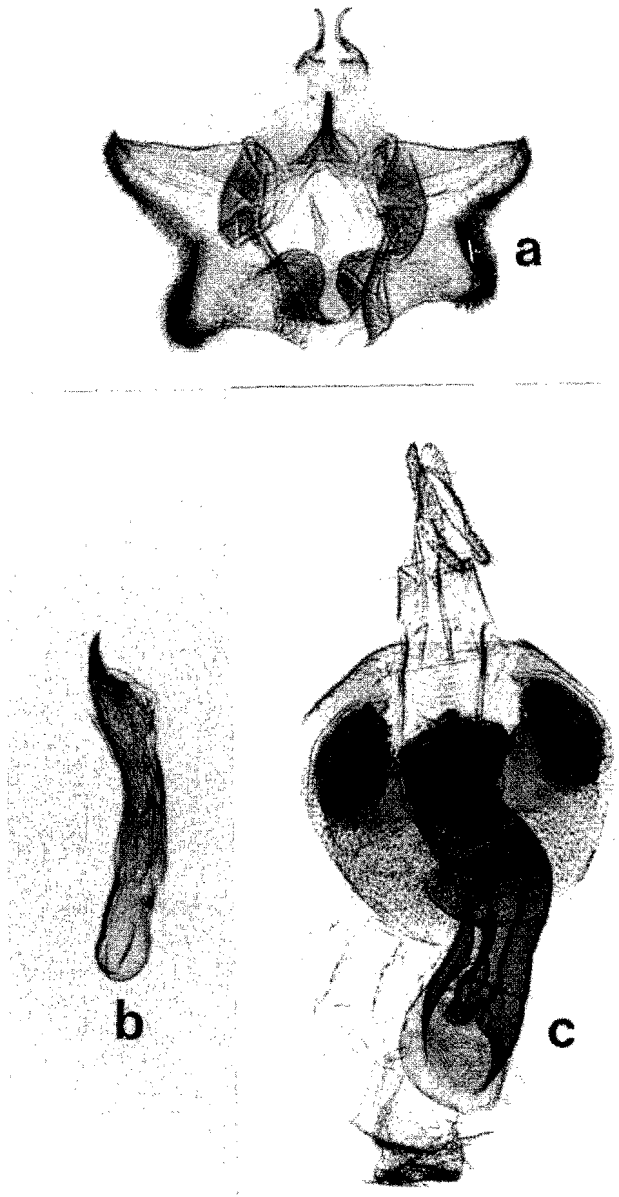

Figure 2. Genitalia of *Aethes patricia* Metzler new species: a, male genital capsule, aedoeagus removed. b, aedoeagus. c, female genitalia.

(USNM). N. Ill., 8/16/1898, 1 ♀, 8/12/1898, 1 ♂, (INHS). **INDIANA**: **Jasper Co.**: Jasper-Pulaski F. & W. A. T-3, N 41°10.3′ W 86°57.5′, 22 July 1998, 1 ♂, 24 Aug 1998, 1 ♀ (slide EHM 235), Eric H. Metzler. Tefft Savanna St. Nat. Pres J-2, N41°09.5′ W 86°58.6′, 22 July 1998, 1 ♂, 29 September 1998, 1 ♂, Eric H. Metzler. Tefft Savanna St. Nat. Pres J-3, N41°09.4′ W 86°58.5′, 8 July 1998, 2 ♂♂, Eric H. Metzler. Tefft TNC [Prairie Border] Nature Preserve T-1, N41°10.5′ W 86°57.6′, 22 July 1998, 1 ♂, 24 Aug 1998, 1 ♂, Eric H. Metzler. **IOWA**: **Lucas Co.**, Jackson Twp S 27, 28 Sept 1991, 1 ♂, G. Balogh (GJBC). **MICHIGAN**: **Cass Co.**, T7S R16W S5, July 31 1987, 1 ♀, George Balogh (GJBC). **Kalamazoo Co.**, Gourdneck S[tate]G[ame]A[rea], T35 R11W S19, 30 Sep[t] 1988, 2 ♂♂, G. Balogh (GJBC). **Monroe Co.**, Petersburg S[tate]G[ame]A[rea], T7S R6E S15, 10 July 1987, 1 ♂, 11 July 1987, 1 ♀, G. Balogh (GJBC). **OHIO**: **Adams Co.**,Lynx, 27 Aug [19]32, 1 ♂, A.F. Braun, Lynx Prairie, 4 Sept [19]31, 1 ♂, A.F. Braun (ANSP). **Erie Co.**, Resthaven W[ildlife]A[rea] wet prairie, 21 Sep[t] 1990, 2 ♂♂, George Balogh. (GJBC). Margaretta Twp., Resthaven Wildlife Area r-1, 41°23.5′ N 82°50.5′ W, 17 June1996, 2 ♂♂, 11 July 1996, 2 ♂♂, 29 July 1995, 3 ♂♂, 19 Aug 1995, 2 ♂♂, Margaretta Township, 41°23.5′ N 82°50.5′ W, Resthaven W.L.A., R-1, 19 Aug 1996, 12 ♂♂, 2 ♀♀, Eric H. Metzler. Margaretta Twp., Resthaven Wildlife Area r-2, 41°24.1′ N 82°50.2′ W, 11 July 1996, 4 ♂♂, 17 Jun 1996, 2 ♂♂, 29 July 1995, 2 ♂♂, Margaretta Township, 41°24.1′ N 82°50.2′ W, Resthaven W.L.A., R-2, 19 July 1998, 3 ♂♂, 1 ♀, 19 August 1996, 1 ♂, Eric H. Metzler. Margaretta Twp., Resthaven Wildlife Area R-3, 41°23.8′ N 82°49.9′ W, 19 July 1998, 2 ♂♂, Eric H. Metzler. Margaretta Twp., Resthaven Wildlife Area R-4, 41°24.2′ N 82°49.8′ W, 30 Sept 1998, 1 ♂, 1 ♂ (slide EHM 236), Eric H. Metzler. Margaretta Twp., Resthaven Wildlife Area R-5, 41°24.4′ N 82°49.1′ W, 19 Aug 1998, 1 ♂, Eric H. Metzler. Margaretta Township, Resthaven W.L.A. R5W, 41°24.4′ N 82°49.05′ W, 26 June 1999, 1 ♂, Eric H. Metzler. Margaretta Township, Resthaven W.L.A. R5E, 41°24.4′ N 82°49.05′ W, 26 June 1999, 5 ♂♂, Eric H. Metzler. **Lucas Co.**, Harding Twp., Irwin Prairie I-1, N 41°39.2′ W 83°46.9′, 23 July 1996, 1 ♀, 30 Sept 1995, 2 ♂♂, Eric H. Metzler. Swanton Twp., Oak Openings MetroPark O-1, N 41°32.1′ W 83°50.3′, 9 August 1996, 2 ♂♂, 27 August 1996, 4 ♂♂, Eric H. Metzler. **Wyandot Co.**, Pitt Twp., Killdeer Plains Wildlife Area, wetland, cc, N 40°42.5′ W 83°16.5′, 21 July 1995, 1 ♂, Eric H. Metzler. Paratypes collected by Eric H. Metzler were deposited in the collections of John G. Franclemont, Cornell University, Ithaca, New York; The Ohio Lepidopterists, Ohio State University Museum of Biological Diversity, Columbus, Ohio; Natural History Museum of Los Angeles County, Los Angeles, California; Michigan State University, East Lansing, Michigan; Eric H. Metzler, Columbus, Ohio; Canadian National Collection, Ottawa, Ontario; American Museum of Natural History, New York, New York; The Natural History Museum, London, England; Florida State Collection of Arthropods, Gainesville, Florida; Institute of Systematics and Experimental Zoology, Kraków, Poland; and Carnegie Museum of Natural History, Pittsburgh, Pennsylvania.

Distribution and Biology. *Aethes patricia* occurs from Ohio, north to Kalamazoo Co., Michigan, and west to Iowa (Fig. 4). The specimens from Adams, Erie, Lucas, and Wyandot counties, Ohio and northwestern Indiana were collected in high-quality prairies and oak savannas. No specimens of *A. patricia* were collected in traps placed in adjacent second-growth forests, or old fields, on the same nights. The life history is unknown.

Etymology. This species is named for my constant companion and spouse, Patricia A. Metzler, who assisted me with all my research in prairies in Ohio, Indiana, and Iowa. Patricia is a noun in apposition.

Discussion. One male from Erie Co., Ohio is heavily flushed with burnt orange scales thus giving it a different appearance.

No specimens tabulated in the database of nearly 100,000 records of the Ohio Survey of Lepidoptera, supported with funds donated to the Ohio Wildlife Diversity & Endangered Species Program, nor any specimens in the extensive collections of Lepidoptera made by Annette F. Braun in diverse habitats in Ohio, were collected outside high quality prairies in Ohio. This description provides a name for a species that, in Ohio and northwest Indiana, may be prairie remnant dependent (Panzer et al. 1997). The type locality is one such habitat owned by the Ohio Division of Wildlife. Several other agencies and organizations, including The Nature Conservancy, Ohio Division of Natural Areas and Preserves, Indiana Division of Nature Preserves, and Toledo MetroParks, which own these properties, can add this to the list of species which inhabit prairies under their stewardship.

Cochylis ringsi Metzler, new species

(Figures 1b, 3, 5)

Diagnosis. *Cochylis ringsi* is tentatively described in the genus *Cochylis* based on a combination of characters including uncus absent, basally fused triangular socii originating from the tegumen, cleft valva with prominent saccular area, vinculum arms free, stout transtilla, short ductus bursa, and bulbous corpus bursa with complicated sclerotized structures posteriorly. The adult is recognizable by the pale, buff-white forewing ground color with a salmon- and kingfisher rufous-colored median continuous excurved fascia outlined with metallic white-gold scales. The basal fascia blends into the basal area. This species most closely resembles *Aethes patricia* and looks similar to *A. argentilimitana* (Robinson, 1869). *Cochylis ringsi* can be distinguished from both by the genitalia. The socii of the genus *Aethes* are sickle shaped, and the socii of *C. ringsi* are not sickle shaped. *Cochylis ringsi* is the only species of the genus *Cochylis* in the Nearctic with metallic white-gold scales outlining a continuous excurved salmon- and kingfisher rufous-colored median fascia.

Description. *Adult male* (Fig. 1b): *Head:* Vertex tufted salmon-colored laterally integrating to pale buff medially. Front tufted, a mixture of buff, white, and reflective white scales medially, integrating to salmon laterally, and burnt orange ventrally. Labial palpus with basal segment short, smoothly scaled, salmon-colored scales distally with burnt orange; median segment more than one half total length, smoothly scaled laterally, ventral and dorsal tufts, inner surface white, ventral, lateral, and dorsal surfaces distally pale buff changing to salmon, some scales distally burnt orange; apical segment short, smoothly scaled, inner surface white, outer surface buff with specks of burnt orange. Antenna filiform, scape mostly salmon-colored, pale buff dorsally, ventral surface naked, base of each segment with dense half circle of sensory setae, many longer than width of flagellar segment. *Thorax:* Patagium and tegulae salmon anteriorly, blending to pale buff posteriorly; posterior scales of tegulae upturned, sometimes recurved anteriorly. Metathorax dorsally tufted, salmon-colored laterally, blending to pale buff medially, underside smoothly scaled, buff. *Legs*: Prothoracic coxae dorsal surface raw umber basally, blending to burnt umber distally, pale buff ventrally; femur raw umber dorsally, pale buff ventrally; tibia with acutely pointed triangular burnt umber scales dorsally, pale buff ventrally; tarsomeres with acute triangular dark tipped shining gold scales dorsally, chamois-color ventrally, pointed contrasting pale buff scales distally. Mesothoracic coxae pale buff; femur raw umber dorsally, pale buff ventrally; tibia with acutely

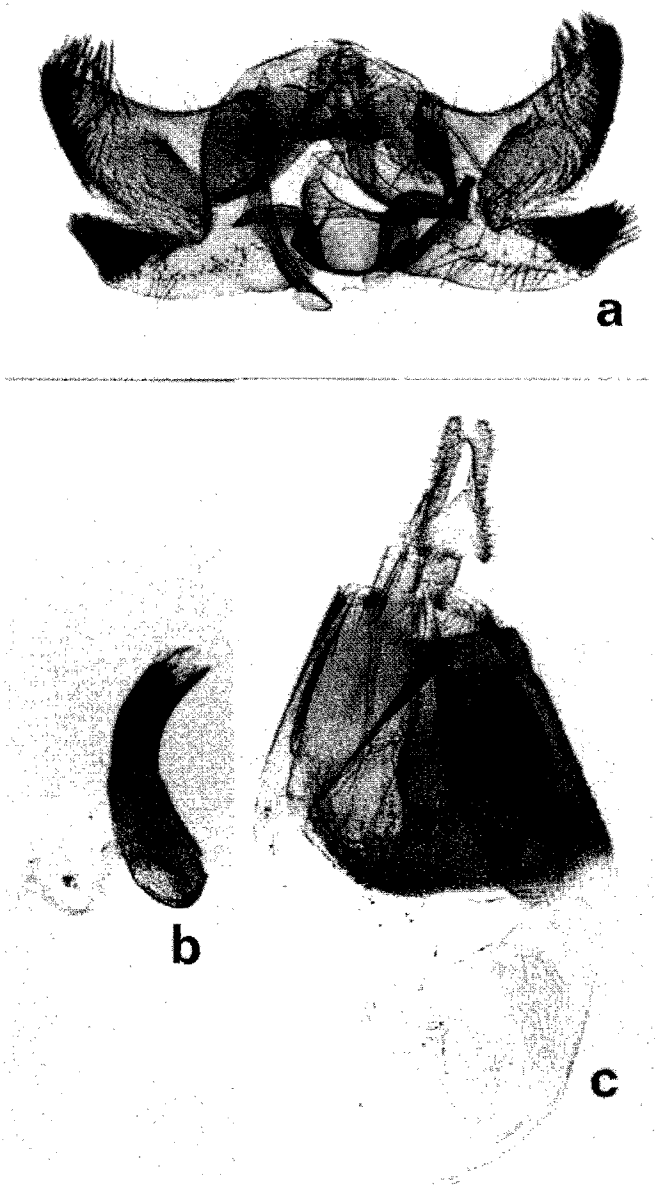

Figure 3. Genitalia of *Cochylis ringsi* new species: a, male genital capsule, aedoeagus removed. b, aedoeagus. c, female genitalia.

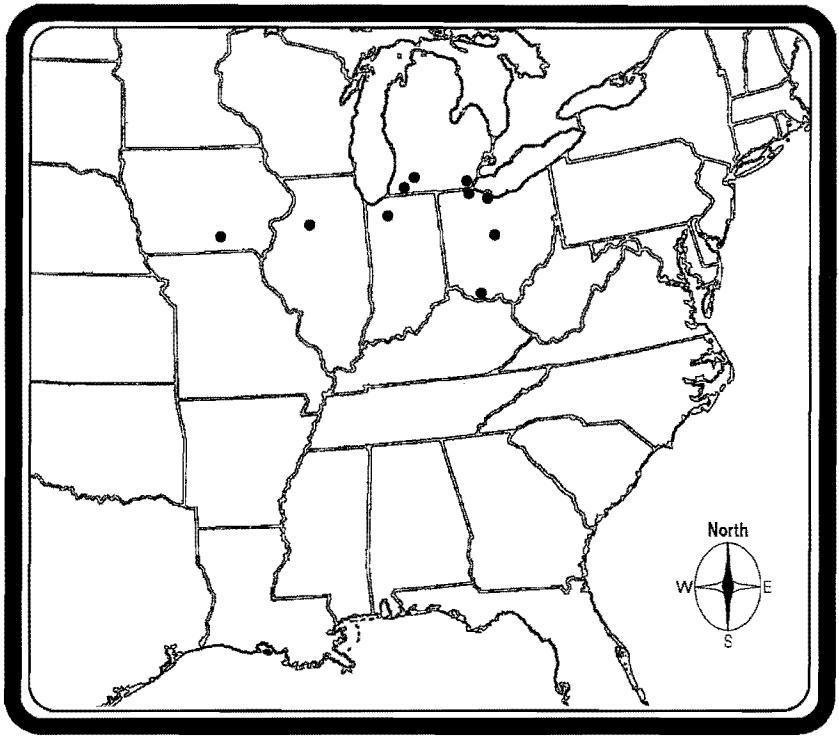

Figure 4. Distribution records of *Aethes patricia* Metzler new species.

pointed burnt umber-color tipped triangular scales, pale buff ventrally; tibial spurs with acutely pointed burnt umber-color tipped triangular scales; tarsomeres with acute triangular dark tipped shining gold scales dorsally, chamois-color ventrally, pointed contrasting pale buff scales distally. Metathoracic coxae pale buff; femur pale buff; tibia pale buff; tibial spurs pale buff, a few fuscous scales; tarsomeres acutely pointed scales shining pale buff, a few fuscous scales. *Forewing:* length 4.5–7.3 mm, mean = 5.5 mm, n = 80; ground color and fringe pale pinkish buff; markings delineated with salmon-, kingfisher rufous-, and metallic white-gold scales; basal fascia, median fascia, and base of costa defined by conspicuous kingfisher rufous scales, indistinct salmon scales, and outlines of metallic white-gold scales; basal fascia blends into basal area; median fascia slightly offset distally at M1; costa, inner margin, and outer margin with small spots of kingfisher rufous scales, terminal area outlined with metallic white-gold scales. Underside mostly fuscous; outer half of costa buff, crossed with narrow fuscous bars; fringe buff. *Hindwing:* Ground color pale drab, slightly paler towards base; veins lined with fuscous; fringe contrastingly pale, base buff, followed by a pale drab line, outer ⅔ of fringe pale. Underside reflective pale horn color, costal area marked with scattered pale drab scales, Sc, R, and M1 veins

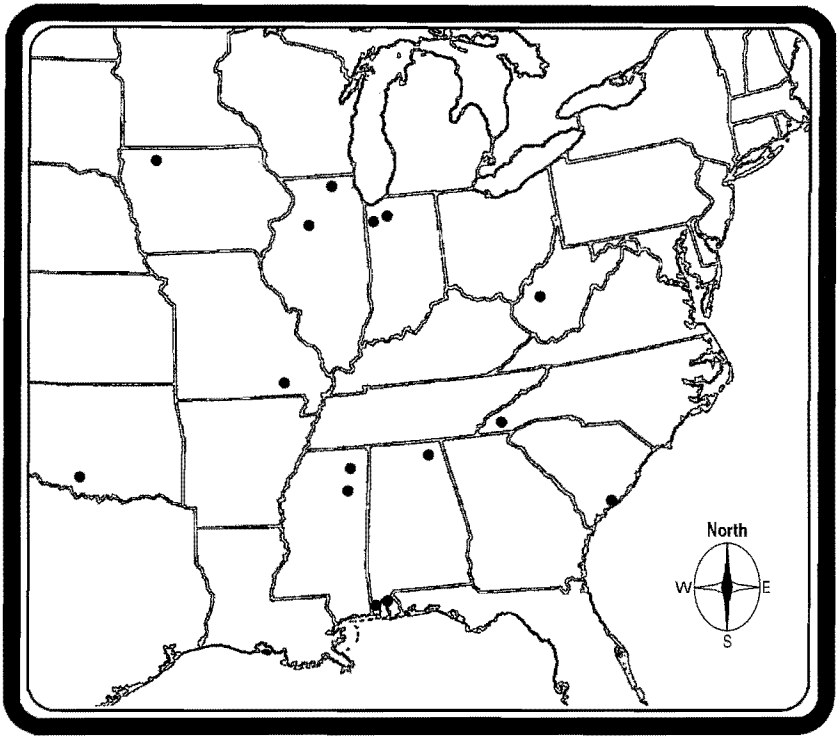

Figure 5. Distribution records of *Cochylis ringsi* Metzler new species.

lined with contrasting dark tipped-scales. *Abdomen:* First terga smoothly scaled, buff; terga 2–7 and sterna pinkish buff, terminal segment buff. *Genitalia* (Fig. 2a, b): Uncus absent. Socii triangular joined from base to ⅓ length, setose. Gnathos absent. Transtilla well developed, mesially constricted. Tegumen robust. Vinculum arms free. Valva broad and elongate, apex at costa ending in a short tooth, dense stout setae on costa and outer margin pointed dorsally. Sacculus robust, elongate, large basal lobe, distal ⅓ with dense stout setae pointed distally. Juxta shield-shaped. Aedoeagus curved ventrally 35° near middle, vesica with dense scobinations; cornuti absent. *Adult female:* superficially similar to male except sensory setae on ventral surface of antennae sparse, no longer than width of flagellar segment, and color of legs. Prothoracic coxae pale horn-color mixed with fuscous dorsally, pale buff ventrally; femur pale horn-color mixed with fuscous dorsally, pale buff ventrally; tibia acutely pointed triangular scales pale horn-color with pale fuscous dorsally, pale buff ventrally; tarsomeres with acute triangular dark tipped shining gold scales dorsally, chamois-color ventrally, pointed contrasting pale buff scales distally. Mesothoracic coxae pale horn-color mixed with fuscous dorsally, pale buff ventrally; femur pale horn-color mixed with fuscous dorsally, pale buff ventrally; tibia with dark tipped shining gold scales, tibial spurs

with dark tipped shining gold scales; tarsomeres with acute triangular dark tipped shining gold scales dorsally, chamois-color ventrally, pointed contrasting pale buff scales distally. Metathoracic coxae pale buff; femur pale buff; tibia pale buff, tibial spurs pale buff; tarsomeres pale buff. *Forewing*: length 5.0–5.7 mm, mean = 5.3 mm, n = 7. *Genitalia* (Fig. 2c): Ovipositor lobes elongate, narrow, lightly sclerotized. Anterior and posterior apophyses slender. Eighth sternite and tergite heavily sclerotized. Ductus bursa a short sclerotized ring. Corpus bursa bulbous, attached to the ductus bursa by a narrow membranous ring, heavily sclerotized posteriorly with lateral sclerotized lobes, right lobe surrounds a tear-drop shaped membranous structure, left lobe shorter, a wrinkled margin surrounds an ovoid shaped membranous structure. Signa absent.

Types. *Holotype*: Male. **USA**: **INDIANA**: **Newton Co**., 41°6.43′ N 87°26.25′ W, Conrad Savanna, 8 July 1998, Eric H. Metzler UV C-N-3 (USNM). *Paratypes*: 100 ♂♂ and 22 ♀♀ as follows: **ALABAMA**: Baldwin Co., Bon Secour N.W. Refuge, T9N, R3E, sec. 19, 7 Sept. 1988, 1 ♂, R.S. Brown & J. MacGown (MEMU). **DeKalb Co**., De Soto St. Prk. 1240′, T7S, R10E, Sec. 31 SW, 20–24 May 1990, 2 ♂♂, R.L. Brown & J. MacGown (MEMU). **Mobile Co.**, Saraland, 3-IX-[19]82, 1♀, E.C. Knudson (ECKC). **ARKANSAS**: **Washington Co.**, 29 July 1966, 1 ♀, R. L. Brown (USNM). Devil's Den St Pk, 12 June 1966, 1 ♂, R.W. Hodges (USNM). **ILLINOIS**: Elgin, 8-5-[19]45, 4 ♂♂, A.L. McElhose (FMNH). **Putnam Co.,** 25 Aug 1950, 1 ♀, 5 Aug 1939, 1 ♀ (slide USNM 23807), 8 June 1939, 2 ♀♀ (slides USNM 23351 & 23338), 13 Aug 1945, 1 ♂ (slide USNM 23808), 13 Aug 1949, 1 ♂ (slide USNM 23997), 1 ♀, 14 June 1951, 1 ♂, 16 June 1951, 1 ♂, 23 July 1939, 1 ♂, 12 Aug 1949, 1 ♀, M.O. Glenn (USNM). **INDIANA**: **Jasper Co.**, Tefft Savanna St Nat Pres, J-2, N 40°09.5′ W 86°58.6′, 8 Jul 1998, J-2, 5 ♂♂, 22 July 1998, 9 ♂♂, 29 September 1998, 4 ♂♂, Eric H. Metzler. Tefft Savanna St. Nat. Pres J-3, N41°09.4′ W 86°58.5′, 8 July 1998, 12 ♂♂, 2 ♀♀, 22 July 1998, 12 ♂♂, 29 September 1998, 13 ♂♂, 1 ♀, Eric H. Metzler. Jasper-Pulaski F. & W. A., T-3, 41°10.3 'N 86°57.5′ W, 8 July 1998, 2 ♂♂, 22 July 1998, 2 ♂♂, 24 August 1998, 2 ♂♂, Eric H. Metzler, T-3. **Newton Co.**, Conrad Savanna site 3, 41°06.5′ N 87°26.2′ W, 18 July 1997, 2 ♂♂, Conrad Savanna C-N-1, 41°06.45′ N 87°26.24′ W, 8 July 1998, 1 ♂, Conrad Savanna C-N-2, 41°06.44′ N 87°26.24′ W, 8 July 1998, 2 ♂♂, Conrad Savanna C-N-3, 41°06.43′ N 87°26.25′ W, 8 July 1998, 1 ♂, 1 ♀ (slide EHM 234), Eric H. Metzler. **IOWA**: **Dickinson Co.**, Ag. 1915, 1 ♂, 1 ♀, Aug, 2 ♂♂ (USNM). Lakeville Twp., Sec. 17, Cayler Prairie, 43°22.7′ N 95°14.9′ W, 26 July 1999, 3 ♂♂, Eric H. Metzler CP2. **Emmet Co.**, Emmet Twp., Anderson Prairie, 46°26.3′ N 94°52.3′ W, 3 July 1995, 2 ♂♂, UV trap, Eric H. Metzler. **MISSISSIPPI**: **Lee Co.**, Tombigbee State Park, 15–24 June 1994, 2 ♂♂, R. Kergosien (MATH), 28 May–9 Jun [19]95, 1 ♂, R. Kergosien (MEMU). **Oktibbeha Co.**, T18N, R14E, Sec. 23, 4 Jun. 1988, 1 ♂, R.L. & B.B. Brown (MEMU). **MISSOURI**: **Carter Co.**, Pinewoods Lk Nf Cgd, Near Ellsinore, 2 June 1985, 1 ♂, G. Balogh (GJBC). **NORTH CAROLINA**: **Macon Co.**, Highlands, 3865′, 25 Aug 1958, 1 ♂, J. G. Franclemont. (USNM) Southern Pines, 16–23 May, 1 ♂, 1–7 Aug, 1 ♀ (USNM). **OKLAHOMA**: **Murray Co.**, Arbuckle Mts., 1 km W. Turner Falls, 19–30 July 1984, 2 ♂♂, Don and Mignon Davis (USNM). **SOUTH CAROLINA**: **Charleston Co.,** McClellanville, Fairfield Plantation, 2 May 1981, 1 ♂, 5 May 1981, 1 ♂ 1 ♀, Ronald W. Hodges (USNM), McClellanville, Wedge Plantation, 27 April 1981, 1 ♂, 30 April 1981, 2 ♀♀, 4 May 1981, 1 ♀, 9 May 1981, 1 ♀, Ronald W. Hodges (USNM). Wedge Plantation, McClellanville, 22 April 1974, 1 ♂ 1 ♀, 24 April 1974, 1 ♂, D.C. Ferguson (USNM). **WEST VIRGINIA**: **Kanawha Co.**, 18 km S Charleston 366m, mixed mesophytic forest, 25 August 1992, 1 ♂ (slide

EHM 233), 1 ♀, R. Acciavatti (CMNH). Charleston South Hills, 1 VII 1989, 1 ♂, Val Albu (VAIC). Paratypes collected by Eric H. Metzler were deposited in the collections of Roy W. Rings, Palmetto, Florida; John G. Franclemont, Cornell University, Ithaca, New York; The Ohio Lepidopterists, Ohio State University Museum of Biological Diversity, Columbus, Ohio; Natural History Museum of Los Angeles County, Los Angeles, California; Michigan State University, East Lansing, Michigan; Eric H. Metzler, Columbus, Ohio; Canadian National Collection, Ottawa, Ontario; American Museum of Natural History, New York, New York; The Natural History Museum, London, England; Florida State Collection of Arthropods, Gainesville, Florida; Institute of Systematics and Experimental Zoology, Kraków, Poland; and Carnegie Museum of Natural History, Pittsburgh, Pennsylvania.

Distribution and Biology. *Cochylis ringsi* has been found from South Carolina to Indiana and Alabama, west to Iowa, Missouri, Oklahoma, and Arkansas (Fig. 5). The specimens from northwestern Indiana were collected in high-quality oak barrens on sandy soils. No specimens of *C. ringsi* were collected in traps placed in nearby second-growth forests, prairies, wet meadows, nor old fields, on the same nights. The life history is unknown.

Etymology. This species is named for my very close friend, mentor, and colleague, Roy W. Rings; *ringsi* is the possessive genitive case

Discussion. The characters of this species are not congruent with any described genus of Cochylini, and placement in the genus *Cochylis* is tentative. *Cochylis ringsi* lacks the elongate mesal process of the transtilla, present in most species of *Cochylis*. Most females of the similar Palaearctic genus *Stenodes* have an elongate ductus bursa, and sclerotizations of the corpus bursa are not at the juncture of the ductus bursa and the corpus bursa. Until a complete analysis of generic characters provides a better definition, a proposal for a new genus is premature. I selected a genus already recorded from the Nearctic.

This description provides a name for a species that, in northwest Indiana, occurred in two high-quality oak savannas. The type locality located within the larger Kankakee macrosite, is one such habitat owned by the Indiana Chapter of The Nature Conservancy, and is managed as a reservoir of biodiversity. Conrad Savanna is actively managed to enhance and maintain a mosaic of oak barrens/savanna and prairie habitats.

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